B 39/Thurman/problem



# Thurman "Hap" Anderson Exercise

## Problem Booklet

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## instructions

Read the problem situation described on the next page. Study the maps until you understand the location of the miners and equipment in the problem. Next, answer each of the 13 questions. Do them one at a time. Don't jump ahead but you may look back to earlier questions and answers. For the first 11 questions the best score is obtained by coloring in only the one correct answer to each question. Questions L and M have different rules. These are explained later.

After you have selected a choice to a question look up the letter for that choice on the answer sheet. Select your answer to each question by rubbing the special pen between the brackets on the answer sheet. A hidden message will appear and tell you if you are right. When you have finished, you will learn how to score your performance.

## Thurman "Hap" Anderson Exercise

Background

This is an underground coal mine with a 450 foot shaft and an 84 inch seam.

There are 6 entries being driven. They are 20 feet wide with pillars 60 feet on center.

Nine miners are working on this section.

The face is 27 crosscuts from north mains, and 3 miles from the elevator.

The nearest EMT is on the first left panel about 12 minutes away.

The locomotive is 10 tons with five tram speeds (point 1 is low and point 5 is high).

Problem

Thurman "Hap" Anderson, motorman, brings a box of continuous miner cutter bits to the second panel left off the north mains. Cal, the unit supply man, leaves the face area and trams a scoop down to crosscut 21. Cal loads some roof bolts onto the scoop. Then he waits for Hap by the supply car that sits at the end of the track. (See Figure 1, page 4.) Hap pulls the locomotive to within five feet of the supply car. He puts the tram control lever in neutral. He forgets about the bag of rock dust holding down the deadman switch. (He put it there because he has a sore leg.) Hap gets off and hands the box of cutter bits to Cal. Hap gets back on the locomotive and prepares to leave. He intends to reverse the motor

direction after repositioning the trolley pole on the wire. As he swings the trolley pole around, without realizing it, he bumps the tram control lever into point 3. As Hap starts to place the harp on the trolley wire, Cal is leaning against the outby end of the supply car watching him. (See Figure 2, page 5.) After studying Figures 1 and 2, turn to page 6 and answer the first question.

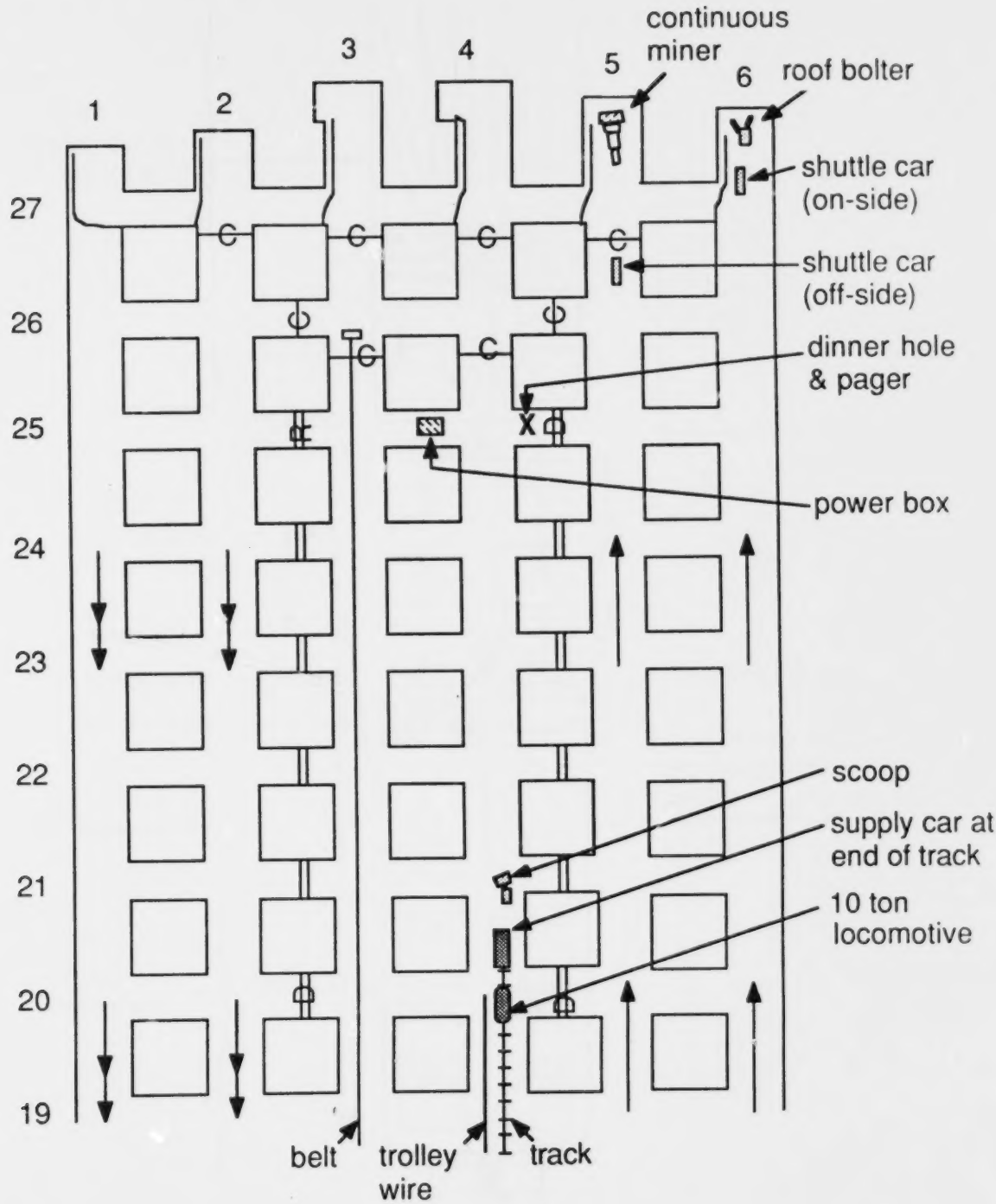


Figure 1: Details of second panel left, off north mains

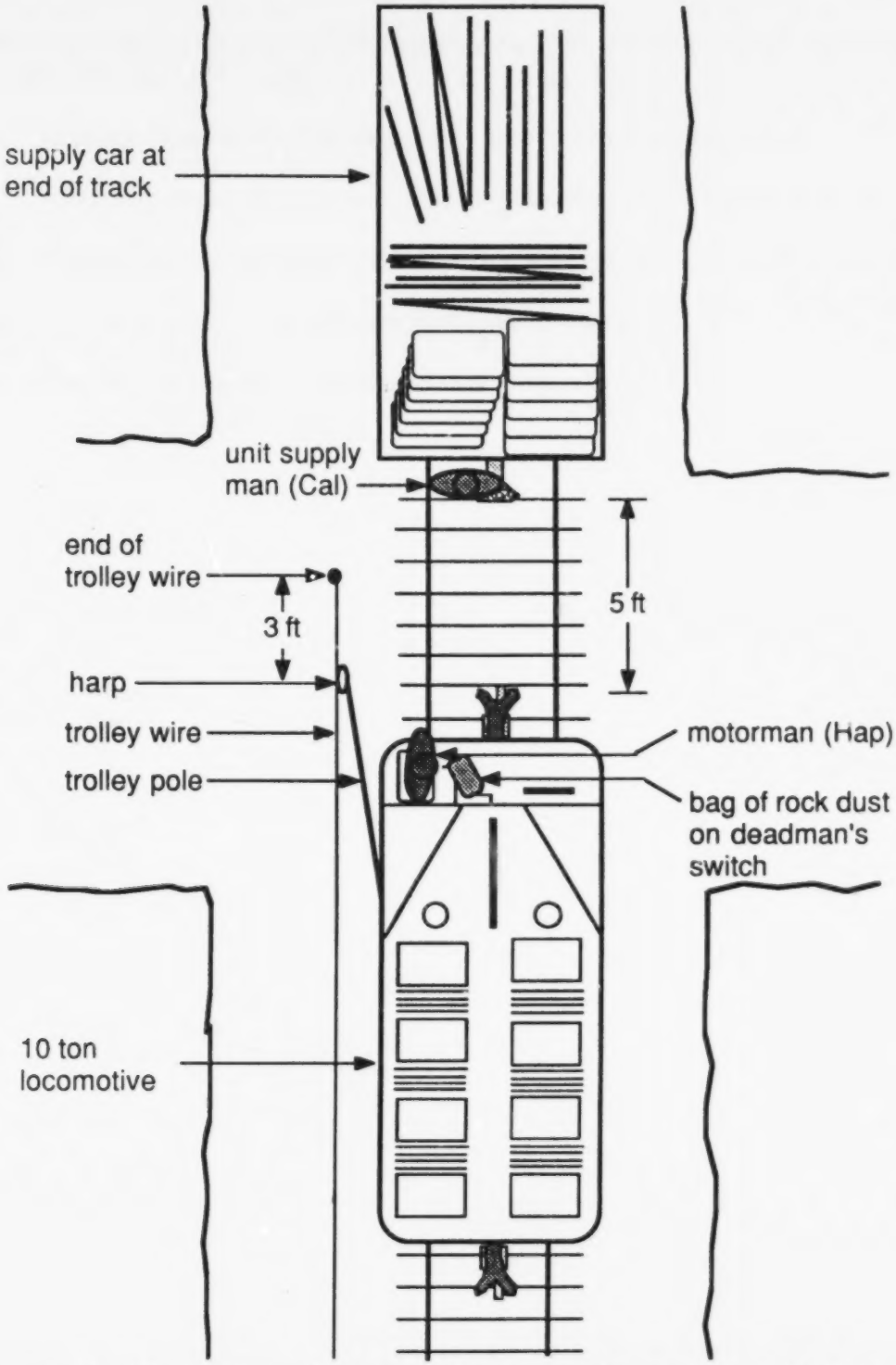


Figure 2: Top view of locomotive, supply car, and Cal's and Hap's positions

**Question A**

What will happen as soon as Hap puts the harp on the trolley wire? (Choose only ONE unless directed to "Try again!")

1. Nothing. The locomotive will remain at rest until Hap starts it up.
2. The locomotive will jump ahead (outby) rapidly and tram down the track.
3. The locomotive will move ahead (outby) slowly and tram down the track.
4. The locomotive will jump backwards (inby) rapidly.
5. The locomotive will creep backwards (inby) slowly.

**Question B**

As soon as the harp touches the trolley wire, the locomotive suddenly moves backwards (inby) toward Cal and the supply car. Which one of the following statements is true? (Choose only ONE unless directed to "Try again!")

6. If Hap acts fast, he can hit the brake or reverse the motor and avoid running into Cal and the supply car.

7. If Cal is alert he has time to jump out of the way so he won't be pinned.

8. The locomotive will stop before it hits Cal and the supply car because it will run out of trolley wire.

9. If Hap immediately pulls the trolley pole off the trolley wire, the locomotive will stop.

10. The locomotive will crash into Cal and the supply car.

**Question C**

As soon at the harp touches the trolley wire, the locomotive jumps back (inby) striking Cal and the supply car. The impact throws Hap from the operator's compartment onto the mine floor under the trolley pole. The fall stuns him. As he comes to, Hap hears Cal screaming. What should Hap do now? (Choose only ONE unless directed to "Try again!")

11. Get up. Tram the scoop up toward the dinner hole and get help.

12. Get up. Swing the trolley pole around the other way (facing outby) so the harp touches the wire. This will give power to the locomotive and allow Hap to pull it away from the supply car.

13. Get up. Get on the locomotive. Reverse the motor. Free the deadman switch. Then swing the trolley pole around the other way (outby) so the harp touches the wire. Then tram outby to free Cal.

14. Get up. Go over to Cal. Look at him and the equipment. Try to find out how badly he is hurt and if he is caught in the equipment.

15. Get up. Tell Cal to try to free himself while Hap gets the first aid kit.

**Question D**

Hap decides to take a close look at Cal, who is yelling and screaming. Cal says his left leg is numb and his right leg hurts. His left pants leg and some of the flesh on the rear of his leg just below the knee is caught between the couplings. The tongue on the supply car coupling is cocked to one side and has jammed Cal's right leg between it and the front of the supply car. What should Hap do now? (Choose only ONE unless directed to "Try again!)

16. Look underneath the coupling at Cal's feet and legs.

17. Leave Cal there and tell him you are going for help. Take the scoop and tram inby to the dinner hole and get help.

18. Get on the locomotive. Put the control lever in neutral. Free the deadman switch. Reverse the motor. Swing the trolley pole outby and put the harp on the wire. Hold the brake on and inch the locomotive ahead (outby) to free Cal.

19. Check Cal's airway.

20. Get on the locomotive. Call for help on the trolley phone.

**Question E**

Now that Hap sees that Cal's left leg is stuck in the coupling and is bleeding a lot, what should he do? (Choose only ONE unless directed to "Try again!")

21. Apply direct pressure to the wound in the calf of Cal's left leg.

22. Apply a constricting bandage to Cal's left leg just above where it is stuck in the coupling.

23. Apply pressure with his fingers to the pressure point in Cal's left groin.

24. Try to make Cal comfortable. Give him some water to drink. Try to get him to sit down on the coupling.

25. Apply a constricting bandage just below the point where Cal's leg is caught in the coupling.

**Question F**

Hap gets on the locomotive. He puts the tram lever in neutral and sets the brake. He removes the bag of rock dust from the deadman switch. Next he swings the trolley pole outby and puts the harp on the trolley wire. It just barely reaches. Now Hap calls for help on the trolley phone. He says, "Help! Help! We got a man caught between a motor and a supply car. He's hurt. Come quick!" Was this a good thing for Hap to do at this time? (Choose only ONE unless directed to "Try again!")

26. Yes, it was right to call for help, but Hap's message is incomplete.

27. Yes, it was right to call for help and Hap's message is fine.

28. No, there was something else Hap should have done first.

29. Yes, it was right to call for help but this message should have been sent earlier.

30. No, Hap should try to get Cal out of the coupling before doing anything else.

**Question G**

Hap gets off the locomotive and goes back to Cal. He pries the coupling with a big crowbar. This frees Cal's right leg. His left leg and pants are still stuck in the coupling. Now the left leg starts to bleed faster.

Just then, you see two other miners come running. Prying together all three of you get the coupling undone. Cal's leg is free. Hap catches Cal and lays him down on the mine floor on his right side. Cal's left leg is still bleeding badly (but not squirting). It looks crooked. It appears a big chunk of flesh has been gouged out of the back of his leg. What should you do for Cal at this time? (Choose only ONE unless directed to "Try again!")

31. Check his neck pulse.

32. Immediately put a piece of wire just above his left knee and twist it tight to make a tourniquet.

33. Immediately apply direct pressure to the wound using your hand. Tell one of the others to get the first aid kit off the locomotive.

34. Turn Cal over onto his back. Prop his head and shoulders up and ask him how he feels.

35. Take Cal's left boot off and examine his foot to see if it is injured.

**Question H**

While you keep pressure on the wound with your hand, you direct one of the other miners to use the scissors from the first aid kit to slit Cal's pants leg so you can see better. Now you can see a gouged out place in his leg the size of two fists. You stuff three large dressings from the first aid kit into the wound and hold them firmly in place. Cal complains that you are hurting him. What should you do? (Choose only ONE unless directed to "Try again!")

36. Let up on the pressure on the wound so it doesn't hurt him.

37. Keep the direct pressure on the wound. Tell him you have to maintain pressure to stop the bleeding.

38. As soon as you have the pressure dressings in place, tie two cravats over them loosely.

39. As soon as you have the pressure dressings in place, wrap a coat or a jacket around Cal's lower left leg.

40. Tell your buddies to get the locomotive ready. Then lift Cal onto the top of the locomotive and take him out while continuing to apply direct pressure.

**Question I**

You keep the dressings firmly in place with your hand. The blood starts to clot and the bleeding nearly stops. Even with the dressings in place the wound hollows deep into Cal's leg. What should you do now? (Choose only ONE unless directed to "Try again!")

41. Put another one or two dressings on top of the dressings already in his wound and tie these firmly in place with two cravats. Watch the dressing to see that it doesn't start bleeding again.

42. Have one of your buddies break out the smelling salts and hold these under Cal's nose to keep him alert. Make him sniff the smelling salts even when he complains and coughs.

43. Now that the blood has clotted, let off on the pressure. Use the scissors to cut the pants on his other leg and examine it for injuries.

44. Now that his blood has clotted and the dressings are stuck in his leg wound, lift Cal onto the stretcher board, tie his legs down, and take him out on the locomotive.

45. Leave the dressings in his wound in place. Then slip an air splint over his leg. Blow the splint up to control the bleeding.

**Question J**

Now you have the pressure dressing tied firmly in place with two cravats. You quickly check Cal for other injuries. Then you and your buddies slip an air splint over Cal's bandaged left leg. Next, you inflate the air splint. He now begins to moan, "Don't hurt me! Don't hurt me!" over and over, and he complains he is cold. He is still lying on his face. You can see his right leg where his pants have been cut by one of your buddies. There is no blood. The leg is bruised, but it looks straight. You run your finger tips along the shin bone. It feels straight and firm. What should you do right now? (Choose only ONE unless directed to "Try again!")

46. Put a sterile dressing over the bruise on Cal's right lower leg and then use a second air splint to immobilize this leg too.

47. Ask Cal if the pressure dressing and the air splint are too tight and offer to loosen them if he wants.

48. Pad the stretcher with a folded blanket. Have the other miners help you roll Cal over onto the stretcher on his back. Keep his injured legs and the rest of his body in line. Then cover him with a blanket.

49. Ask Cal to describe what happened, how the accident took place, and who is to blame. This will keep his mind off his problem.

50. Write down the exact time and how long it has been since the accident.

**Question K**

After Cal is on the stretcher you check on him. His pulse is fast (about 115) and weak. His hands feel cold and damp. He is slow to answer your questions and he acts sleepy. Think about this and Cal's injuries. At this point what is Cal's most serious problem and how should you help him? (Choose only ONE unless directed to "Try again!")

51. Possible infection from a dirty, chewing type of wound. You should take extra care to keep the wound dry and clean.

52. Possible injuries to his face, chest, arms, and head. You should unbutton his coveralls and shirt, and look him over carefully for any other injuries.

53. Probable traumatic shock that may kill him. You should keep him warm, and lower his head and chest while elevating the foot end of the stretcher.

54. Probable breathing problems. You should do a finger sweep of his mouth, count his breathing rate, and begin artificial respiration immediately if he passes out.

55. Mental confusion and hallucinations. Keep him awake and talking. Gently slap his face and pinch his cheeks to keep him alert.

**Question L**

The EMT arrives. She takes over and finishes checking Cal for injuries, immobilizes him on the stretcher, and loads him on the locomotive to take him out. What things should you do to help? (Select as MANY as you think are correct.)

56. Call outside to clear the track all the way out.

57. While the EMT helps Cal, you examine Hap and see if he is OK.

58. Answer the EMT's questions. If you think she should know something she doesn't ask about, tell her that information.

59. Offer to go with the EMT to help take Cal out.

60. While the EMT looks at Hap, give Cal small sips of water when he says he is thirsty.

**Question M**

List all the violations of state and federal law, and all the unsafe practices you find in the problem.

END OF PROBLEM

**Scoring your performance**

1. Count the total number of responses you colored in that were marked "correct." Write this number in the first blank on the answer sheet.

2. Count the total number of "incorrect" responses you colored in. Subtract this number from 45. Write the difference in the second blank on the answer sheet.

3. Add the numbers on the first and second blanks. This is your score.

The best possible score of 60 results from selecting all the correct answers and no wrong answers. The worst possible score of zero results from selecting all the wrong answers and no correct answers.